

## ABSTRACT:

The invention relates to a radiation sensor (10) which is notably suitable for use in the radiation detector of a computed tomography apparatus. The radiation sensor (10) is preferably constructed as an integrated chip in the CMOS technique and is provided with photodiodes (11) which are arranged in the form of a matrix as well as with a temperature sensor (12). The output signals of the photodiodes (11) can be corrected in respect of temperature dependency by means of the output signals of the temperature sensor (12). The temperature sensor (12) preferably utilizes the same data format as the photodiodes (11), so that it can be addressed, read out and treated in the same way as the photodiodes (11) by an evaluation unit (13). The measured temperature value, furthermore, can be used for the detection of faults and/or ageing of the radiation sensor chip (10).

Fig. 1